APPENDIX C2

RATING VEHICLES AND RATING VEHICLE ASSESSMENT

HS20-44 - Design vehicle
3 axle vehicle
Gross Weight = 72 kips

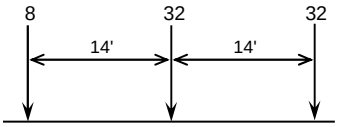

Figure C2.1: Rating Vehicle 1

Type 3 Unit - legal vehicle conforming to Weight Table 1
3 axle vehicle
Gross Weight = 50 kips

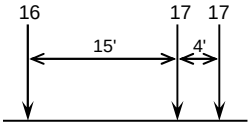

Figure C2.2: Rating Vehicle 2

Type 3-3 Unit - legal vehicle conforming to Weight Table 1
5 axle vehicle
Gross Weight = 80 kips

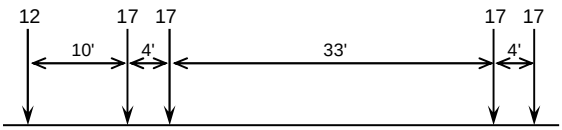

Figure C2.3: Rating Vehicle 3

Type 3S2 Unit - legal vehicle conforming to Weight Table 1
6 axle vehicle
Gross Weight = 80 kips

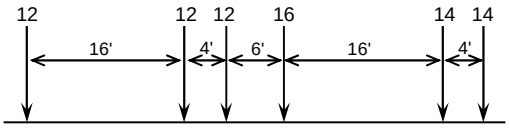

Figure C2.4: Rating Vehicle 4

Permit 1 - continuous trip permit vehicle conforming to Weight Table 3
5 axle vehicle
Gross Weight = 98 kips

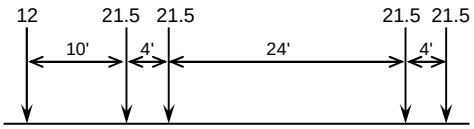

Figure C2.5: Rating Vehicle 5

Permit 2 - continuous trip permit vehicle conforming to Weight Table 3
5 axle vehicle
Gross Weight = 98 kips

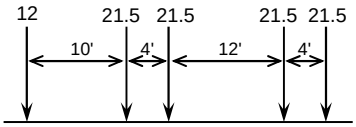

Figure C2.6: Rating Vehicle 6

Permit 3 - single trip permit vehicle conforming to Weight Table 4
8 axle vehicle
Gross Weight = 163 kips

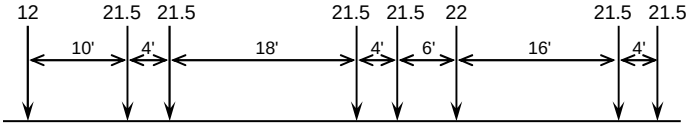

Figure C2.7: Rating Vehicle 7

Permit 4 - single trip permit vehicle conforming to Weight Table 5
11 axle vehicle
Gross Weight = 228 kips

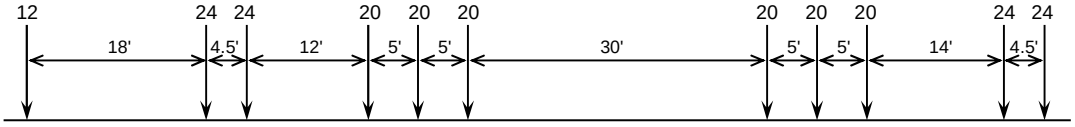

Figure C2.8: Rating Vehicle 8

Permit 5
6 axle vehicle
Gross Weight = 120.5 kips

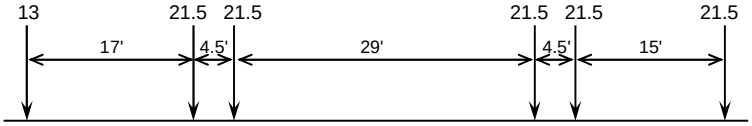

Figure C2.9: Rating Vehicle 9

Permit 6
8 axle vehicle
Gross Weight = 150.5 kips

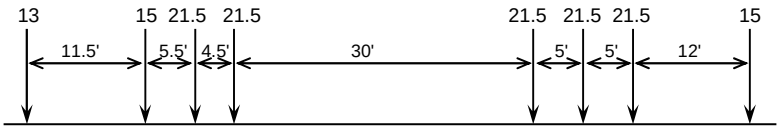

Figure C2.10: Rating Vehicle 10

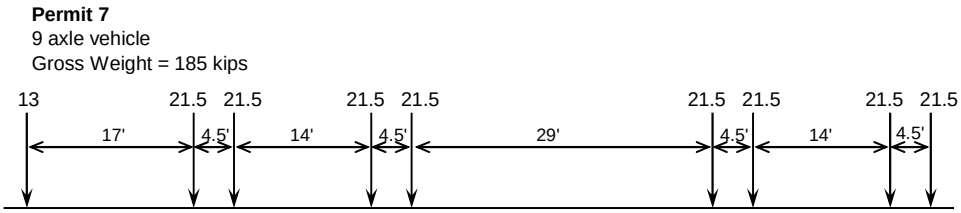

Figure C2.11: Rating Vehicle 11

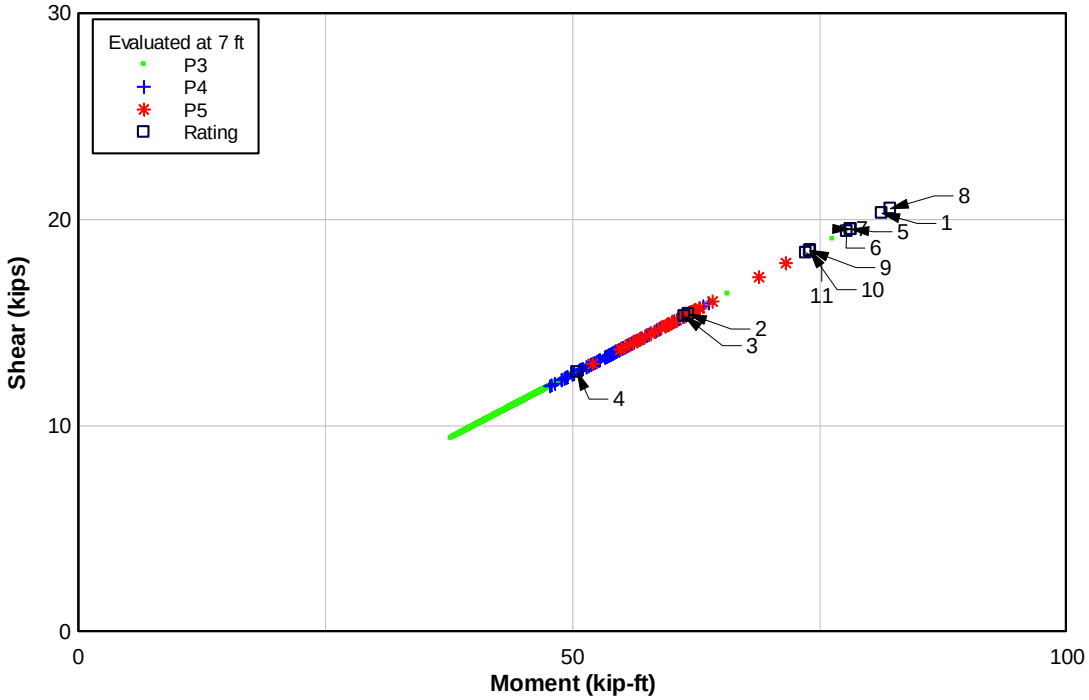

Figure C2.12: Maximum shear and moment load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for a single (11 ft) span simply-supported bridge evaluated at 7 ft from left support in span one.

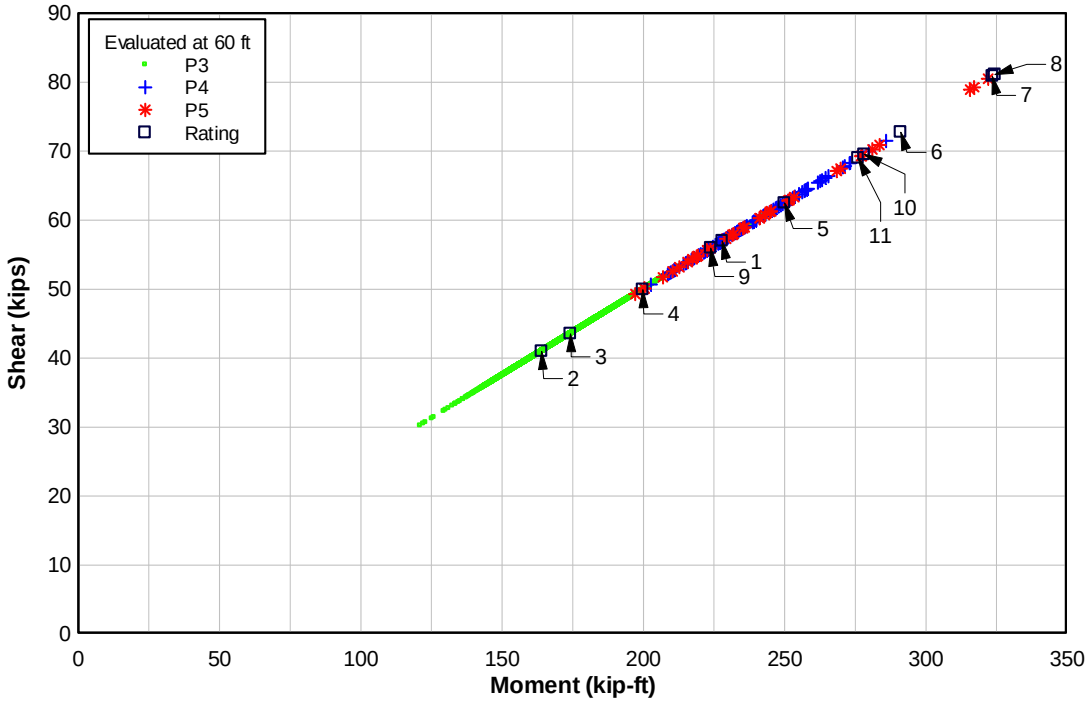

Figure C2.13: Maximum shear and moment load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for a single (64 ft) span simply-supported bridge evaluated at 60 ft from left support in span one.

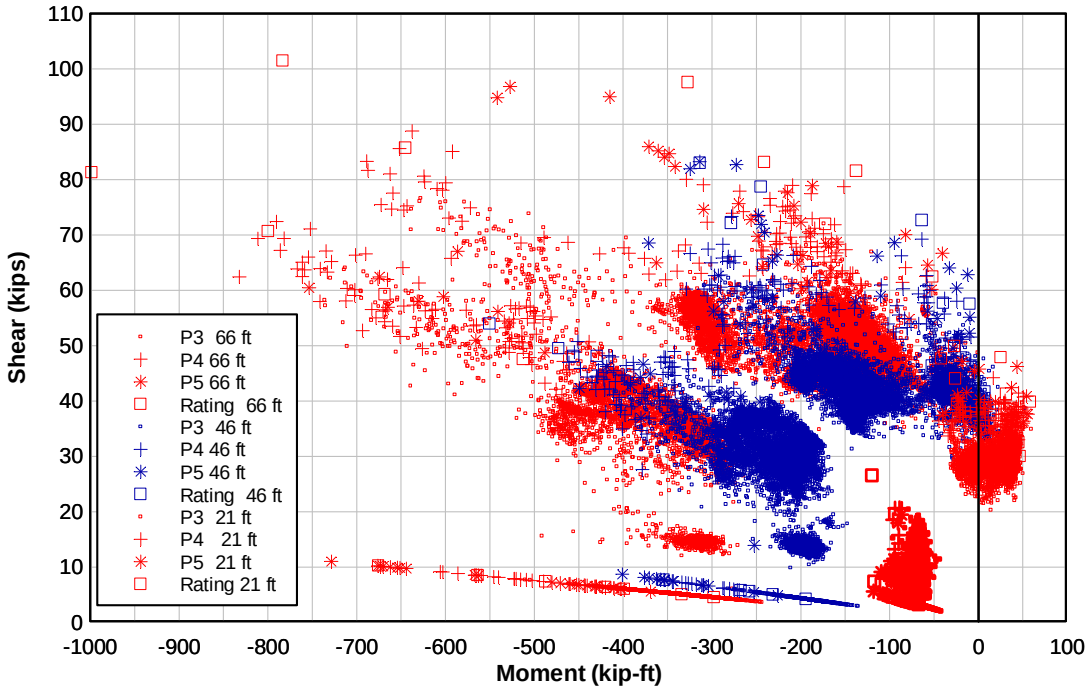

Figure C2.14: Summary of the maximum shear vs corresponding moment and the maximum moment vs corresponding shear for two-span continuous bridges with 70 ft, 50 ft, and 25 ft spans all evaluated 4 ft from the first continuous support in span one.

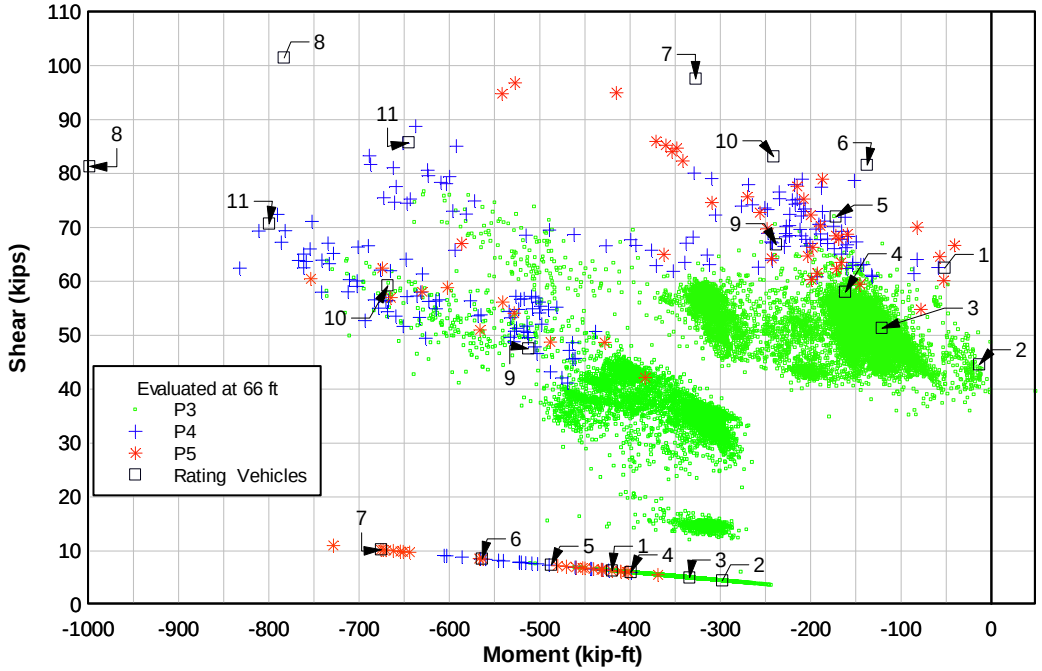

Figure C2.15: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for two (70 ft) -span continuous bridge evaluated at 66 ft from left support in span one.

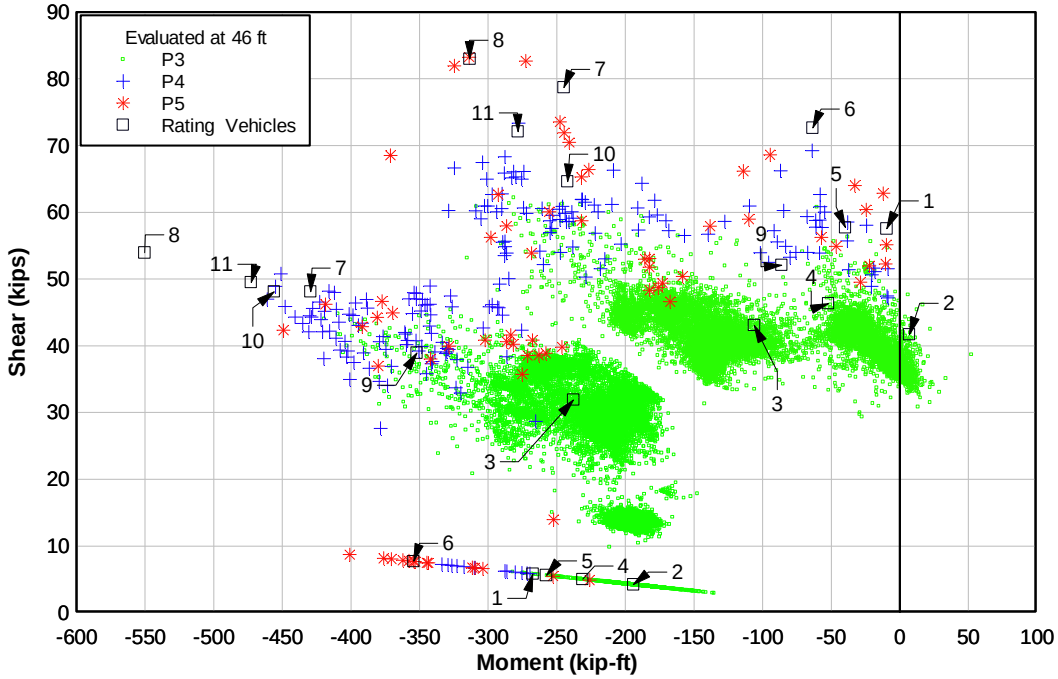

Figure C2.16: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for two (50 ft) -span continuous bridge evaluated at 46 ft from left support in span one.

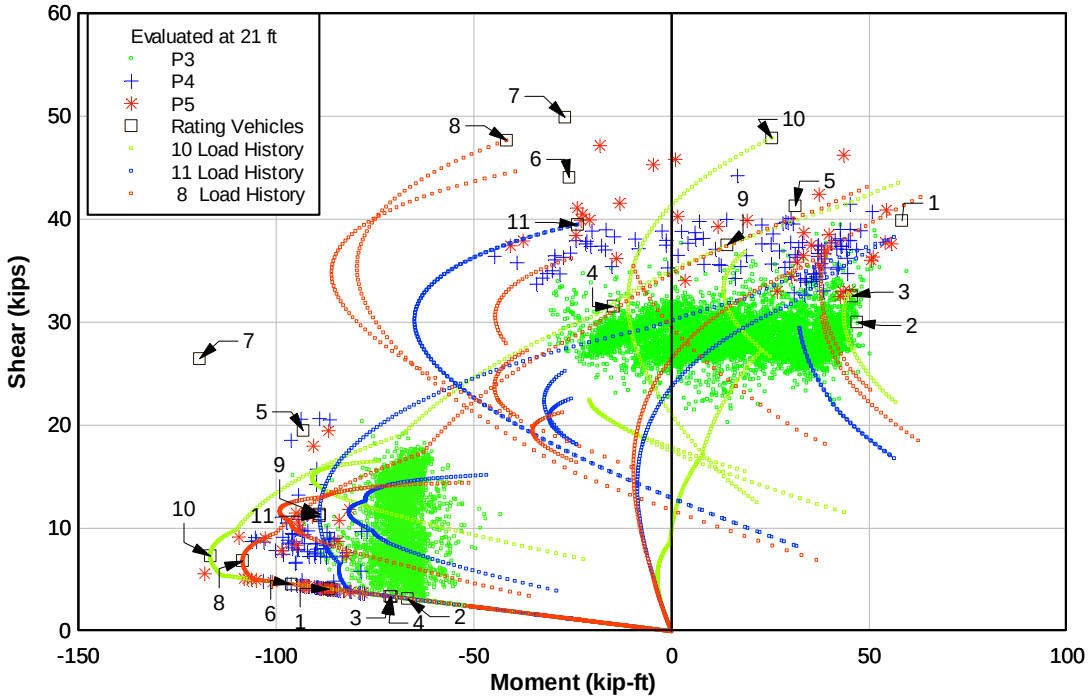

Figure C2.17: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for two (25 ft) -span continuous bridge evaluated at 21 ft from left support in span one. Load histories of Rating Vehicles 10, 11 and 8.

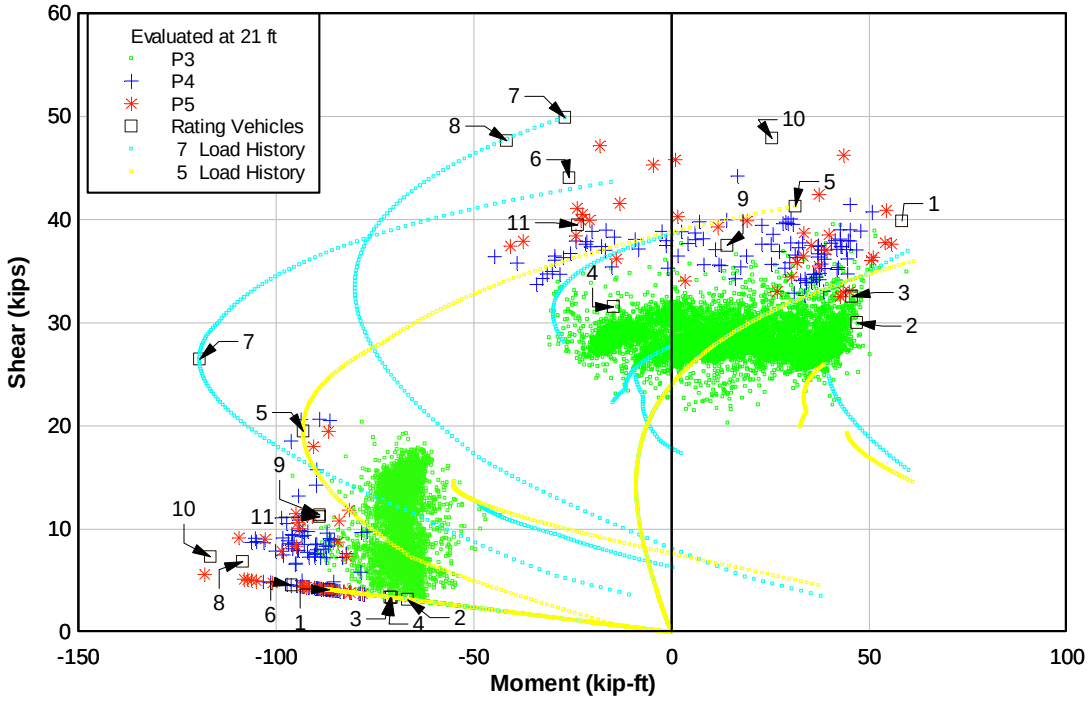

Figure C2.18: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for two (25 ft) -span continuous bridge evaluated at 21 ft from left support in span one. Load histories of Rating Vehicles 7 and 5.

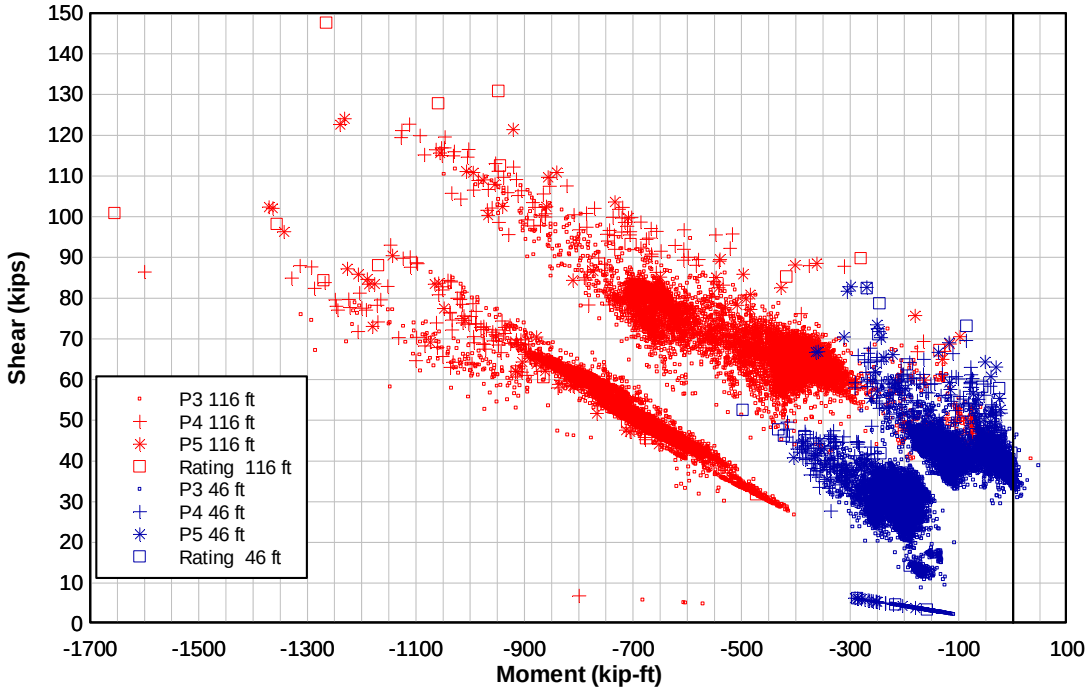

Figure C2.19: Summary of the maximum shear vs corresponding moment and the maximum moment vs corresponding shear for three-span continuous bridges with 120 ft and 50 ft spans both evaluated 4 ft from the first continuous support in span one.

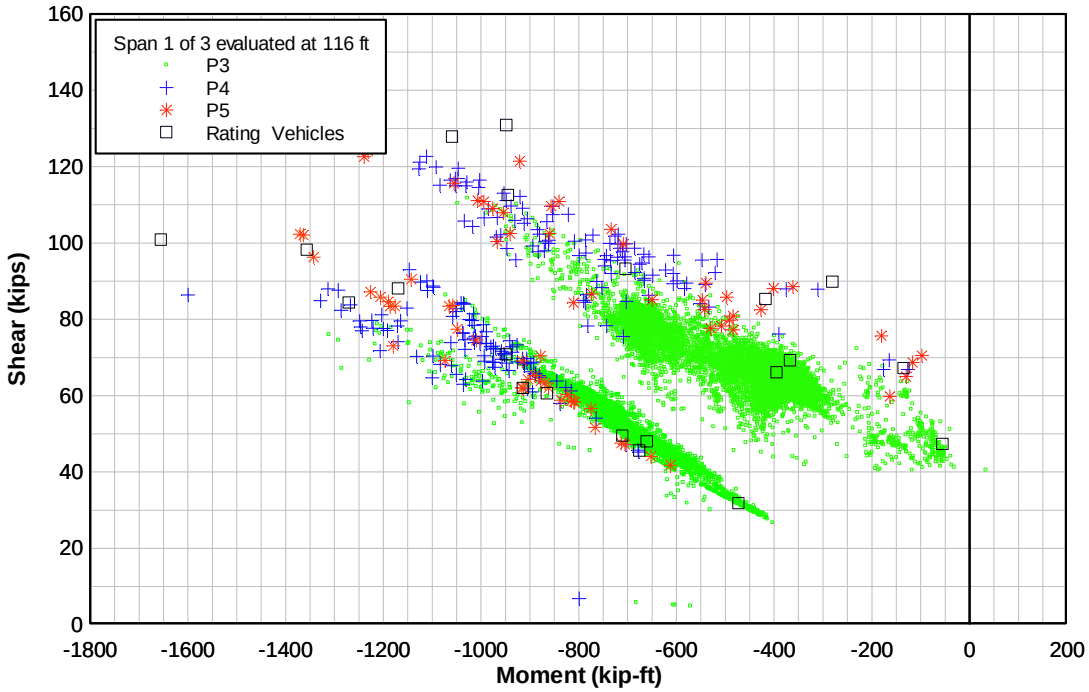

Figure C2.20: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (120 ft) -span continuous bridge evaluated at 116 ft from left support in span one.

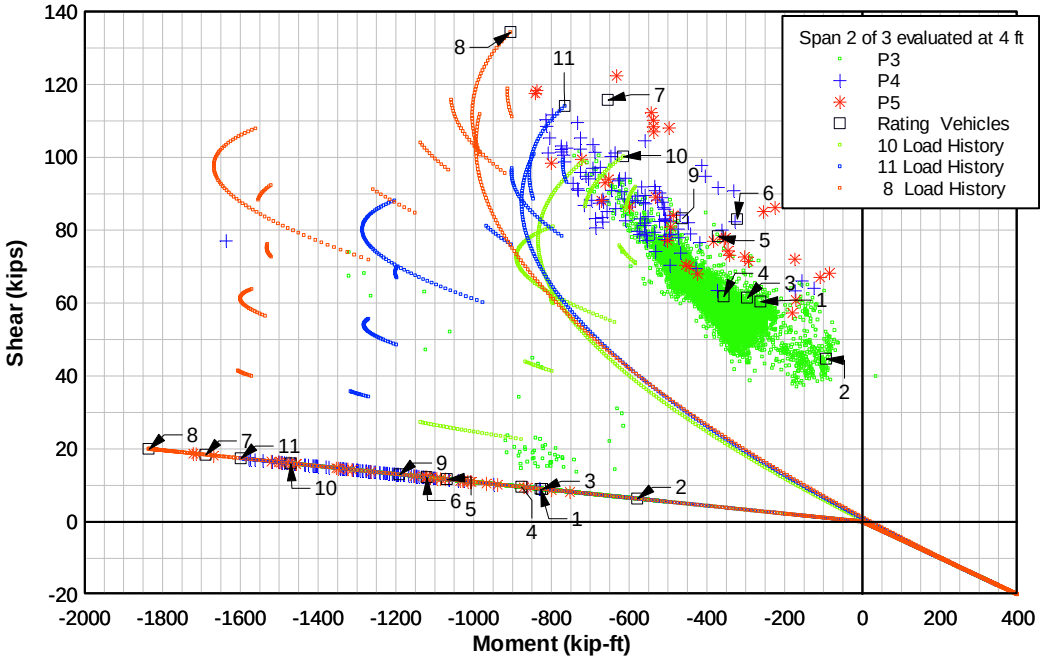

Figure C2.21: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (120 ft) -span continuous bridge evaluated at 4 ft from left support in span two. Load Histories for Rating Vehicles 10, 11 and 8.

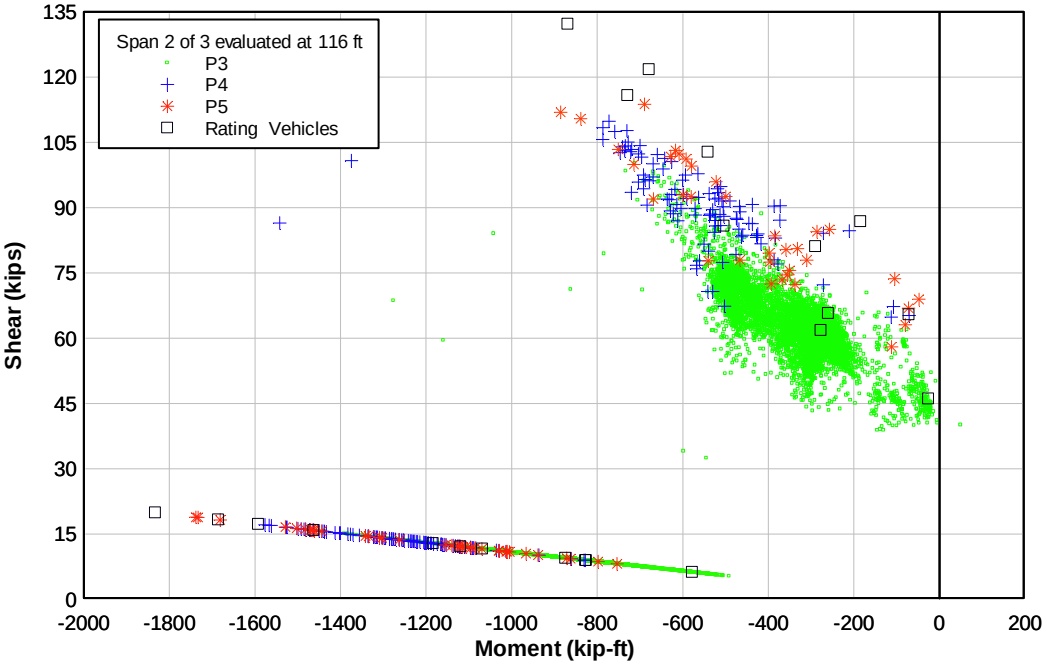

Figure C2.22: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (120 ft) -span continuous bridge evaluated at 116 ft from left support in span two.

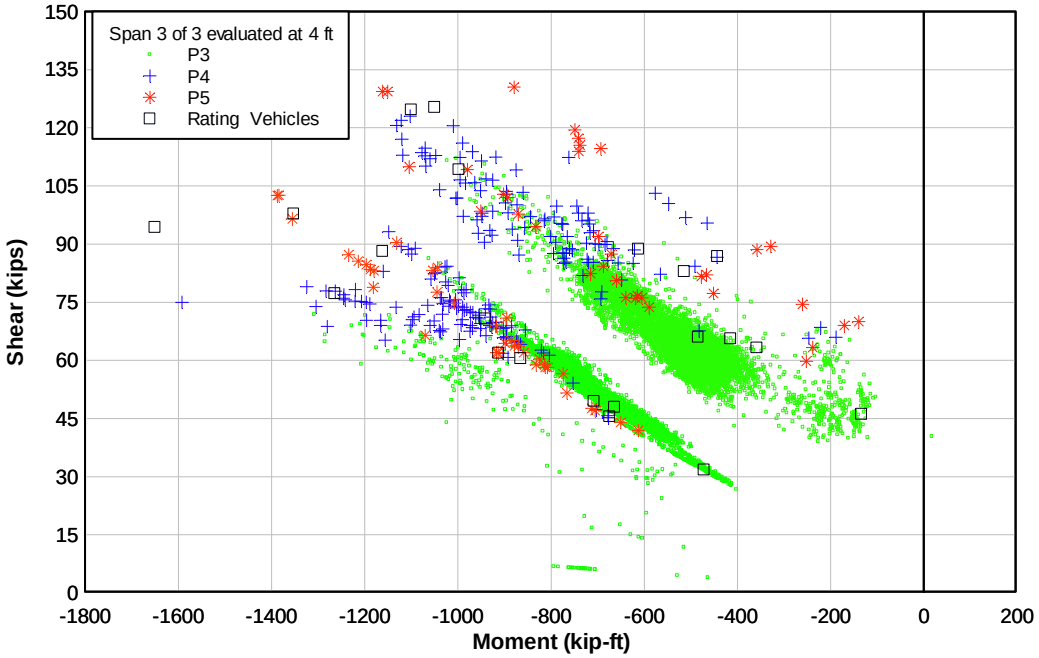

Figure C2.23: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (120 ft) -span continuous bridge evaluated at 4 ft from left support in span three.

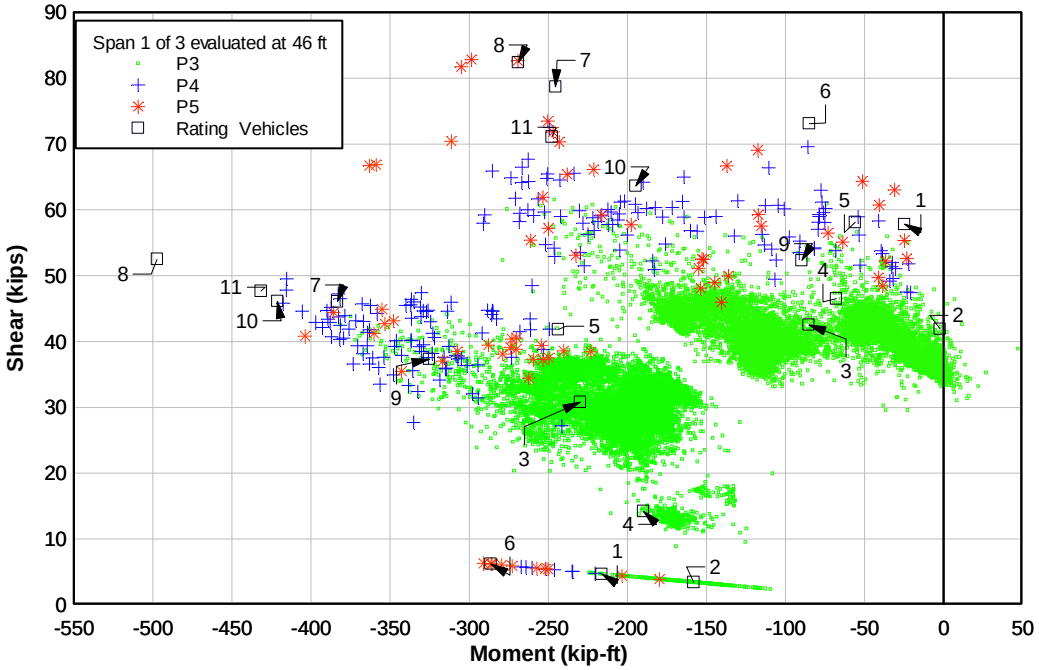

Figure C2.24: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (50 ft) -span continuous bridge evaluated at 46 ft from left support in span one.

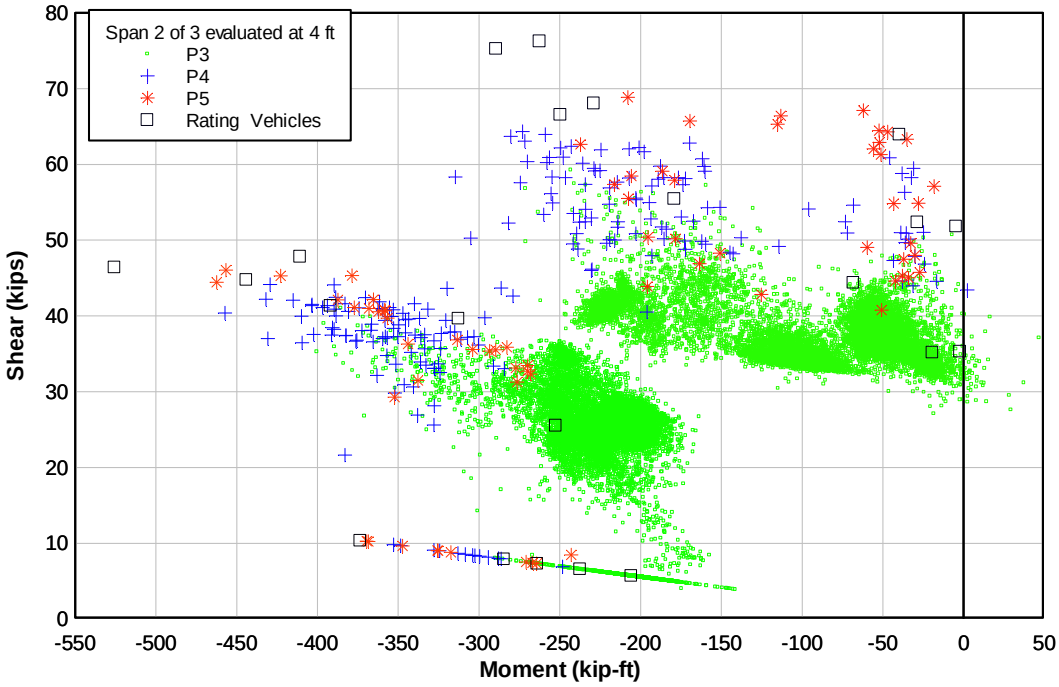

Figure C2.25: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (50 ft) -span continuous bridge evaluated at 4 ft from left support in span two.

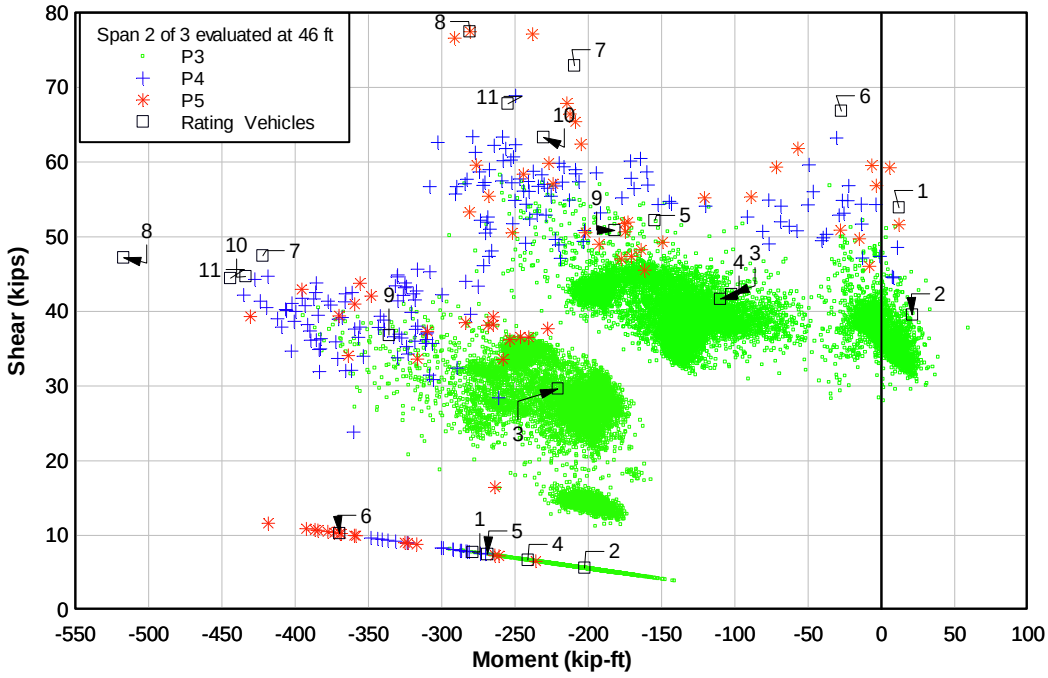

Figure C2.26: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (50 ft) -span continuous bridge evaluated at 46 ft from left support in span two.

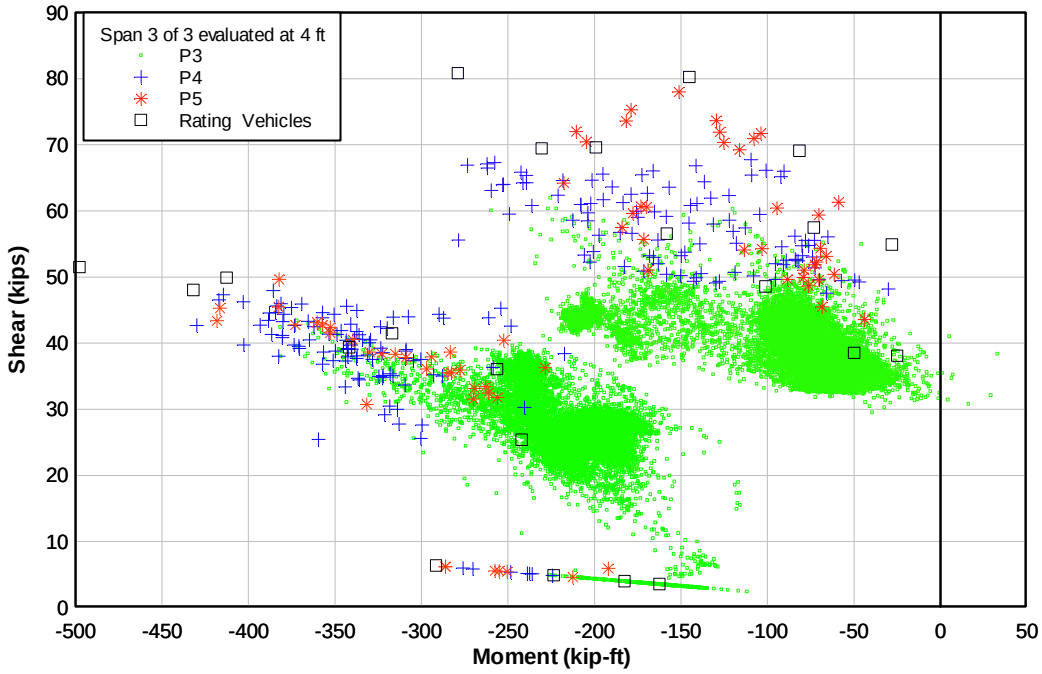

Figure C2.27: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for three (50 ft) -span continuous bridge evaluated at 4 ft from left support in span three.

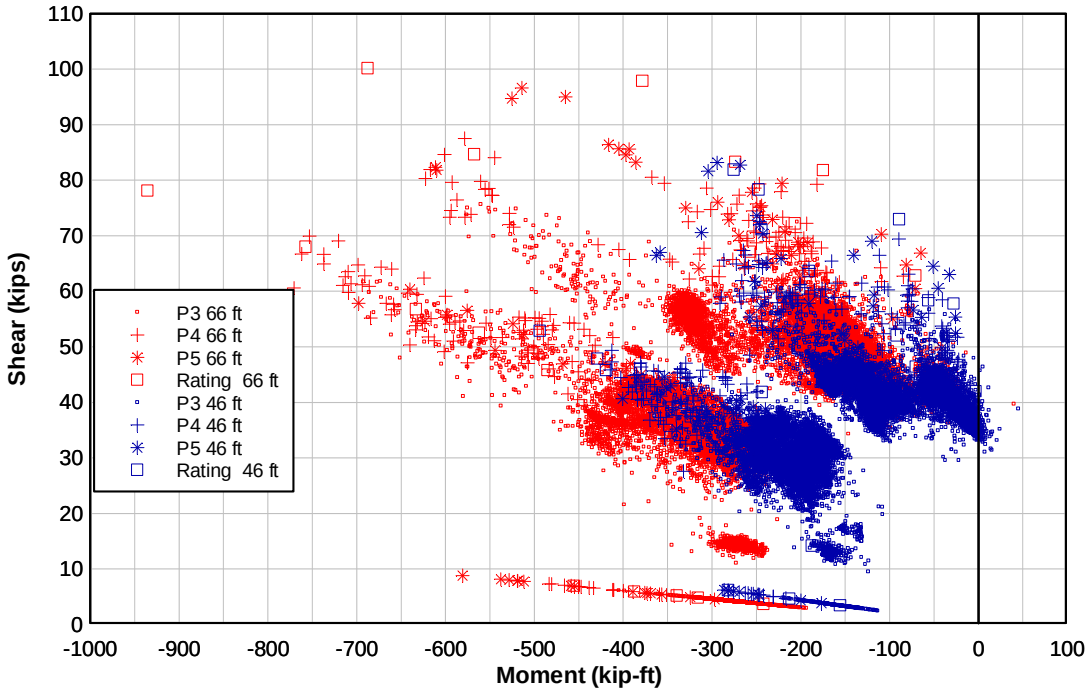

Figure C2.28: Summary of the maximum shear vs corresponding moment and the maximum moment vs corresponding shear for four-span continuous bridges with 70 ft and 50 ft spans both evaluated 4 ft from the first continuous support in span one.

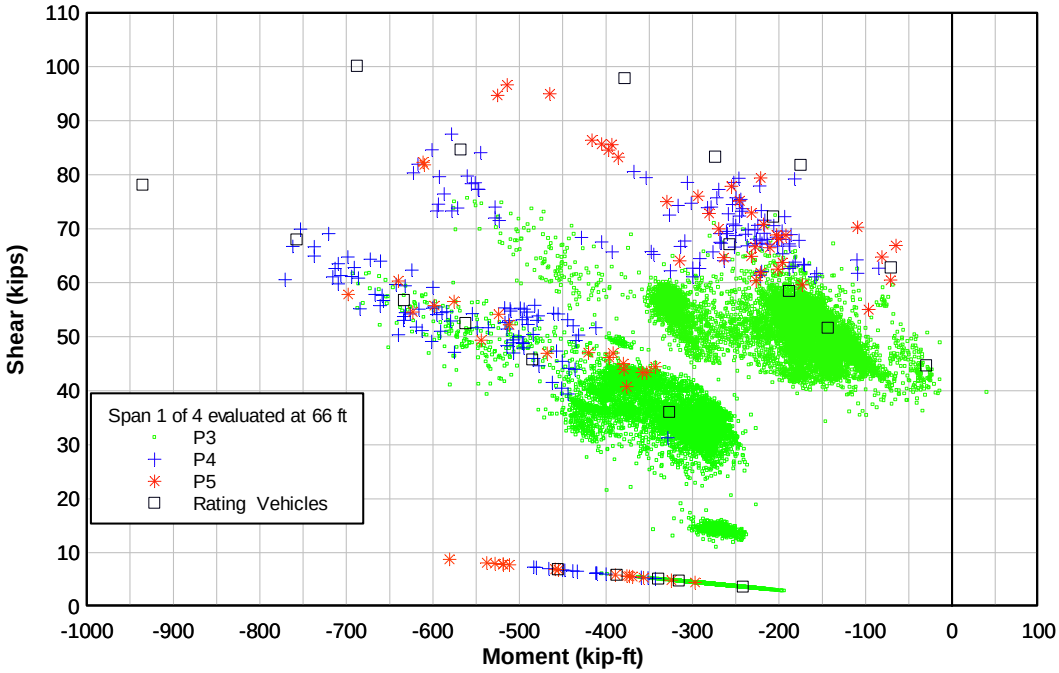

Figure C2.29: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (70 ft) -span continuous bridge evaluated at 66 ft from left support in span one.

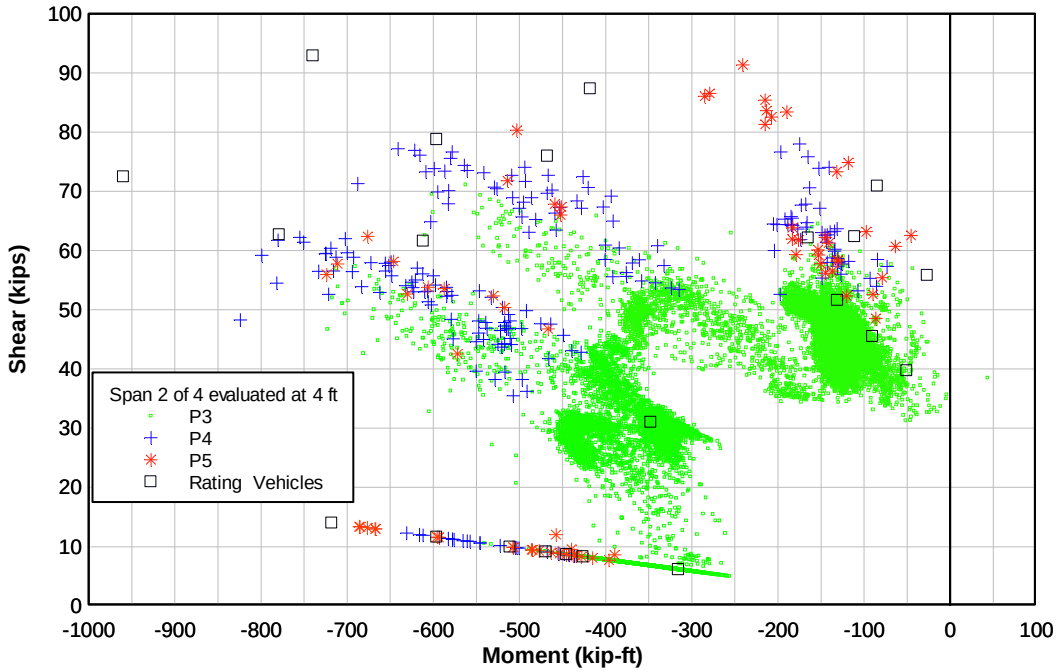

Figure C2.30: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (70 ft) -span continuous bridge evaluated at 4 ft from left support in span two.

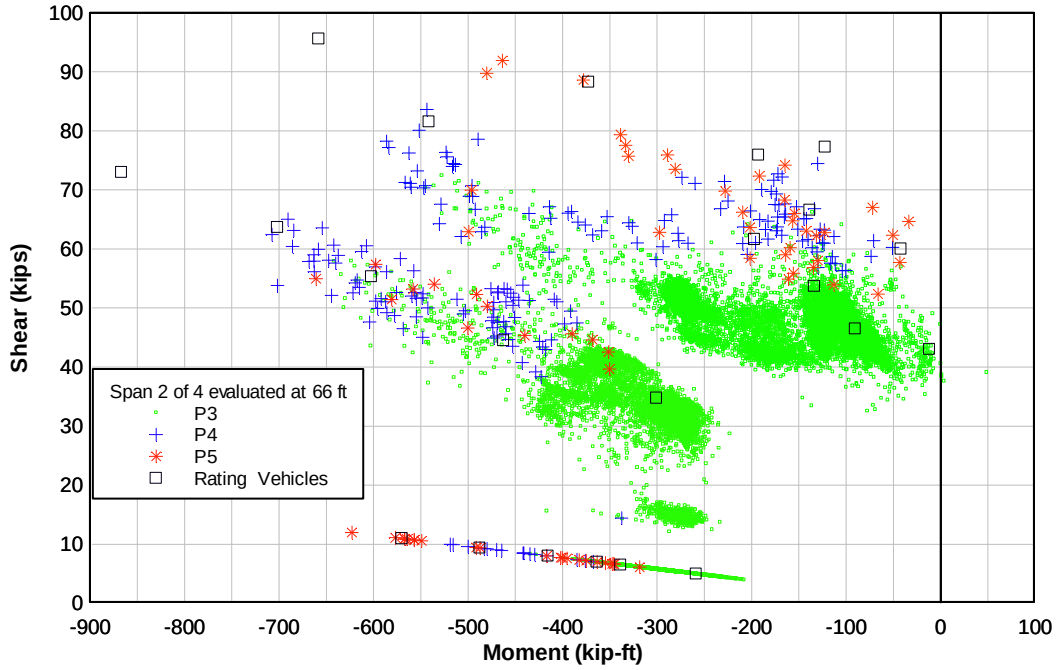

Figure C2.31: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (70 ft) -span continuous bridge evaluated at 66 ft from left support in span two.

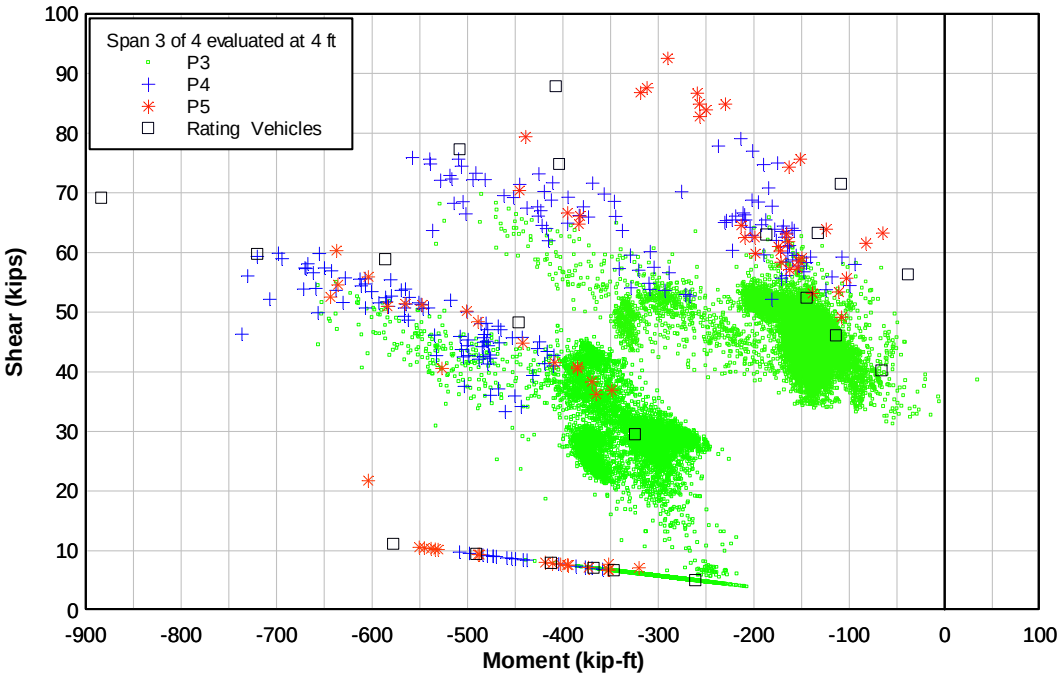

Figure C2.32: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (70 ft) -span continuous bridge evaluated at 4 ft from left support in span three.

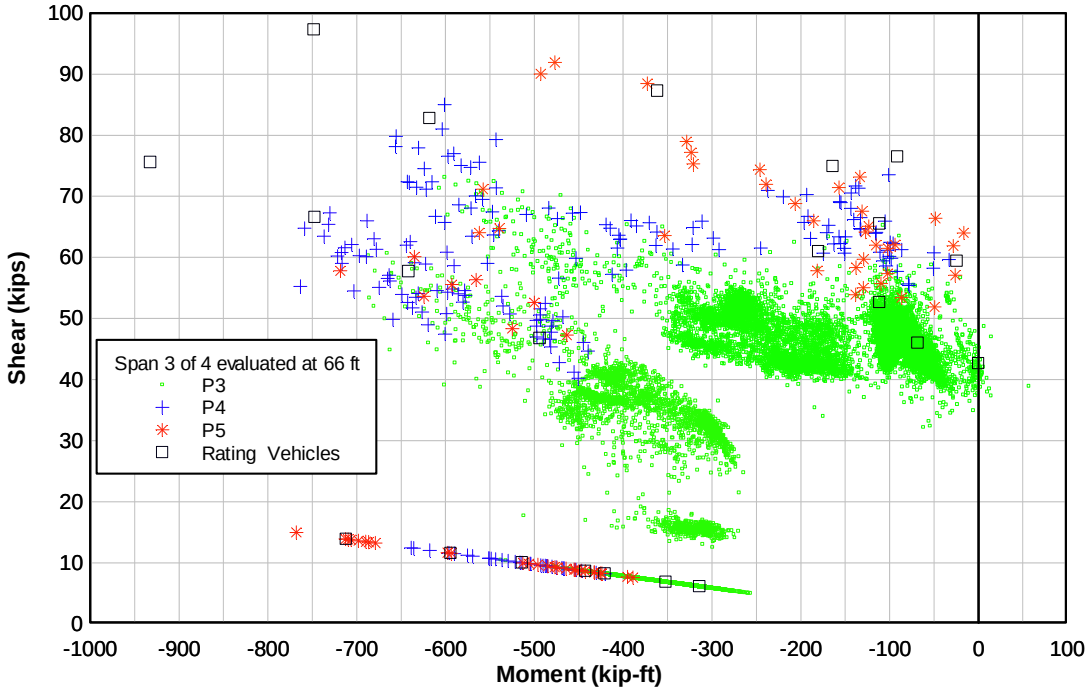

Figure C2.33: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (70 ft) -span continuous bridge evaluated at 66 ft from left support in span three.

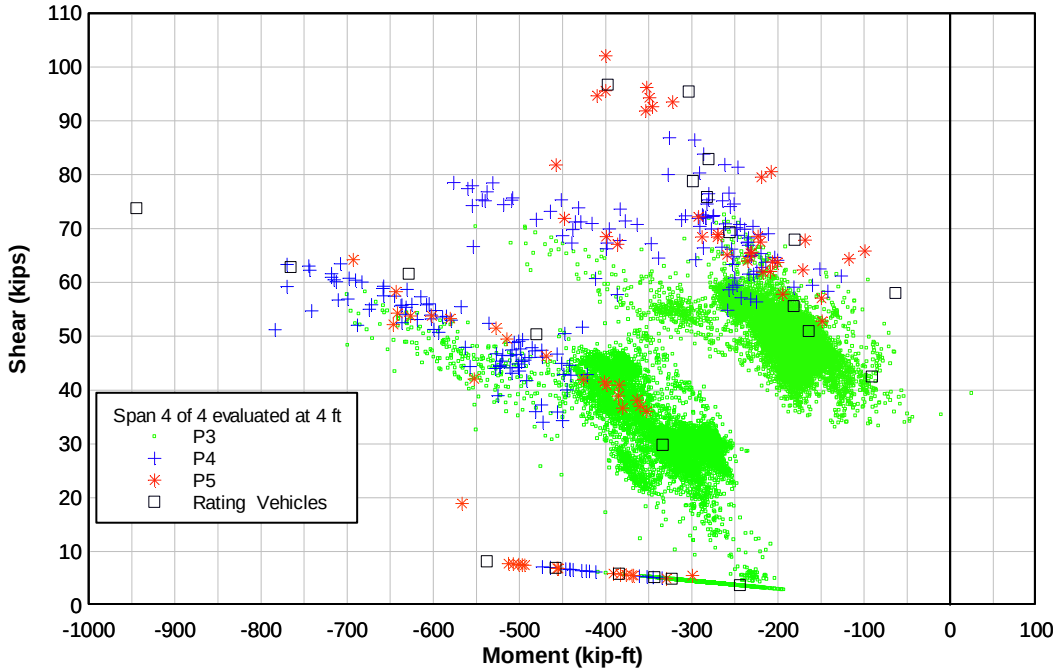

Figure C2.34: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (70 ft) -span continuous bridge evaluated at 4 ft from left support in span four.

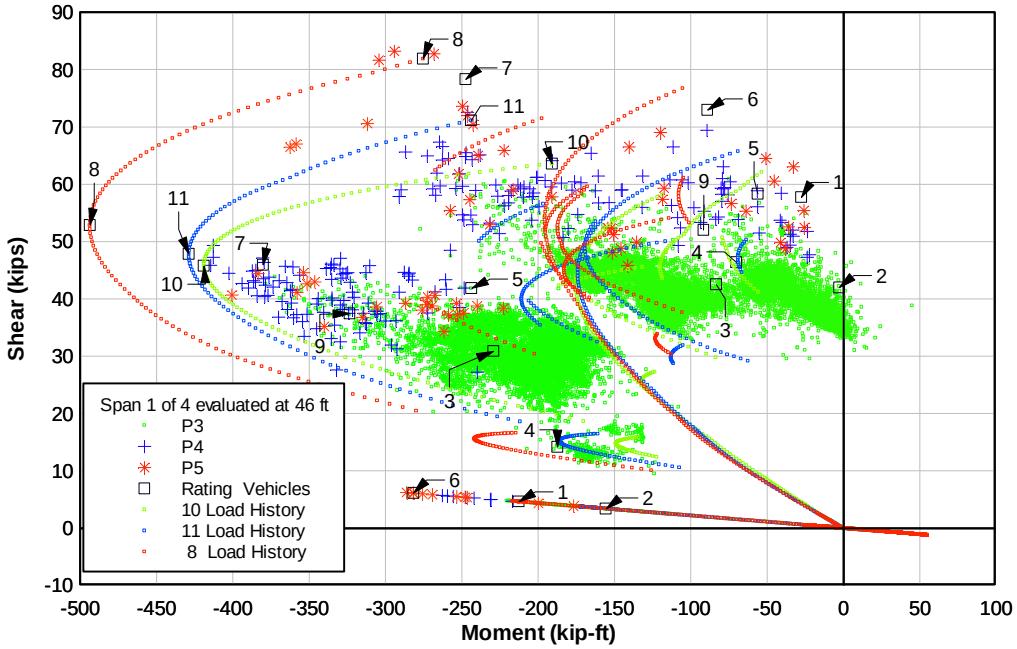

Figure C2.35: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (50 ft) -span continuous bridge evaluated at 46 ft from left support in span one. Load Histories for Rating Vehicles 10, 11 and 8.

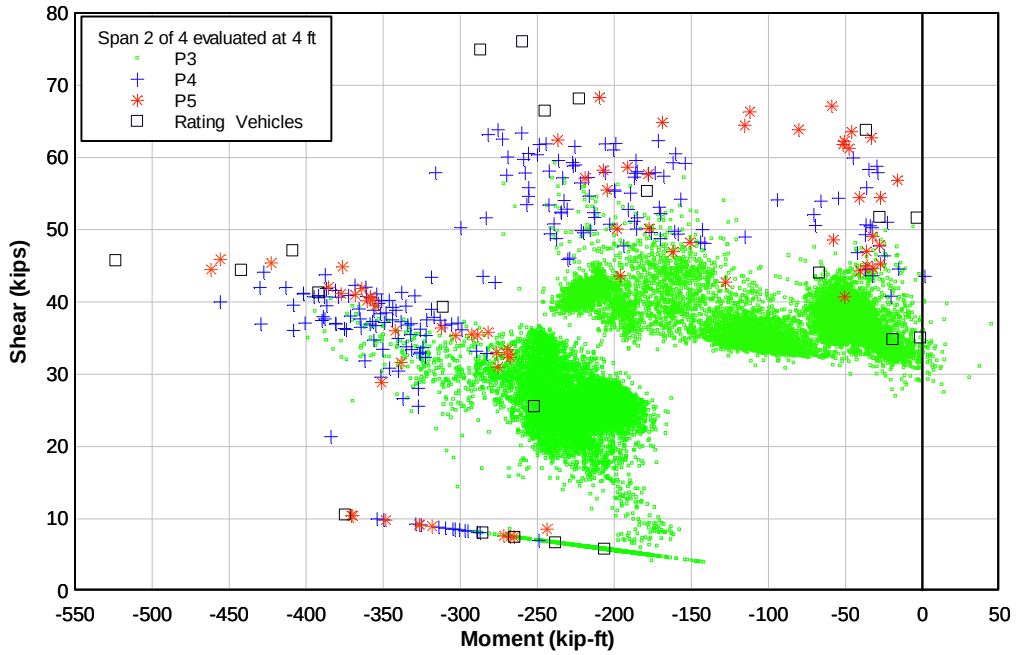

Figure C2.36: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (50 ft) -span continuous bridge evaluated at 4 ft from left support in span two.

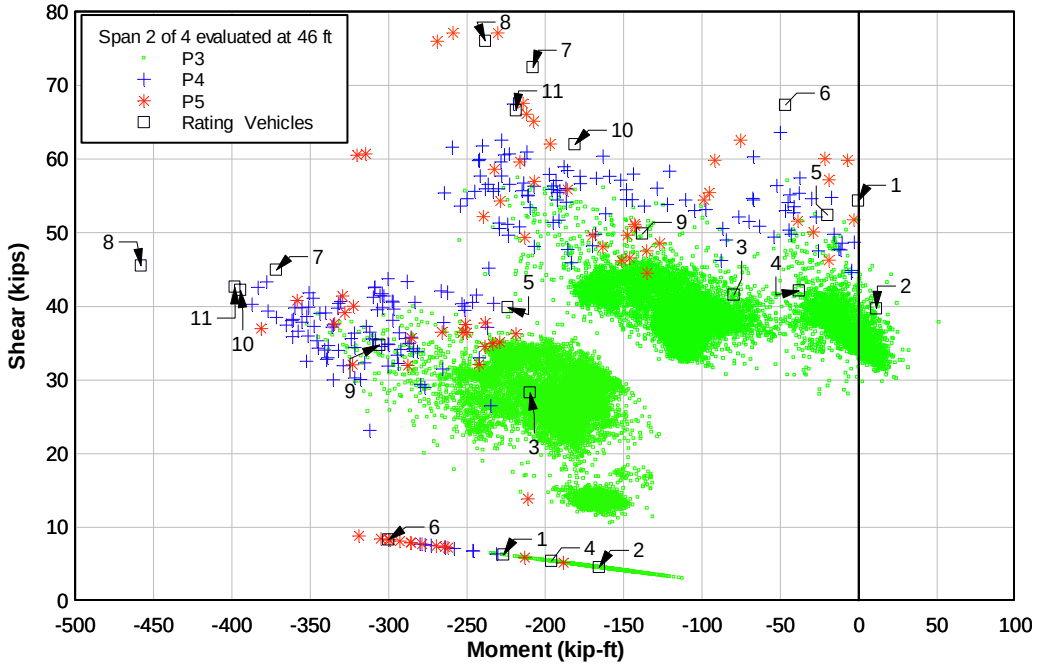

Figure C2.37: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (50 ft) -span continuous bridge evaluated at 46 ft from left support in span two.

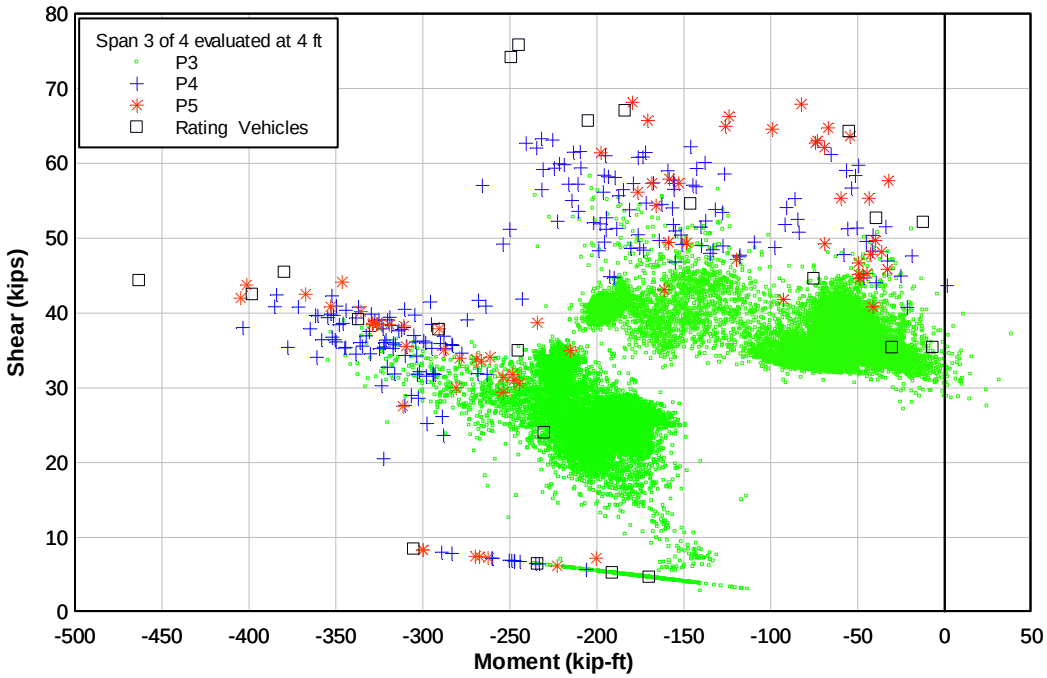

Figure C2.38: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (50 ft) -span continuous bridge evaluated at 4 ft from left support in span three.

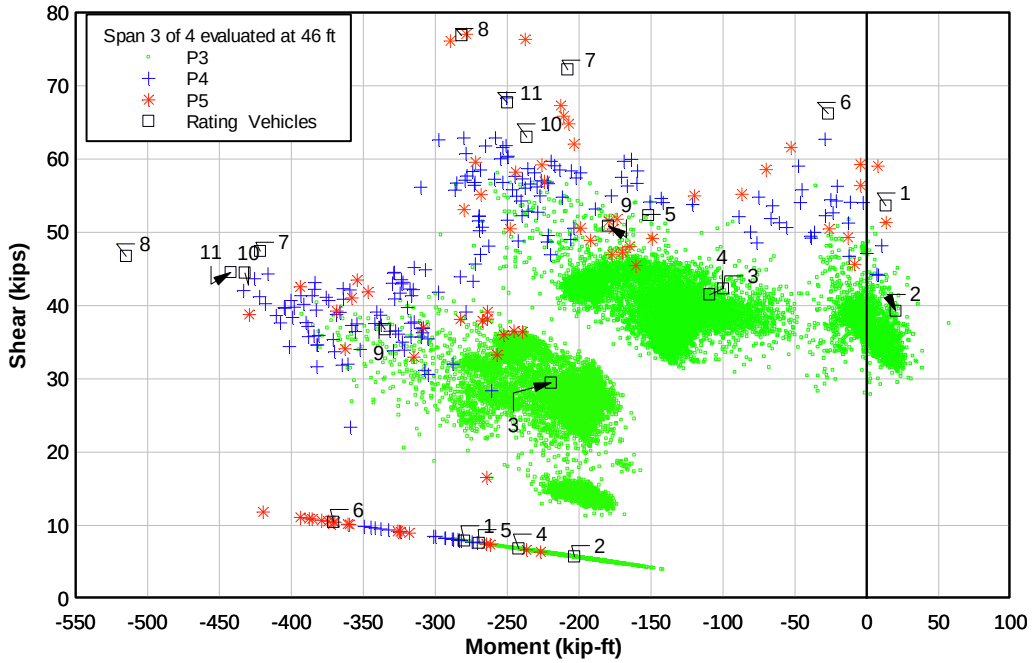

Figure C2.39: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (50 ft) -span continuous bridge evaluated at 46 ft from left support in span three.

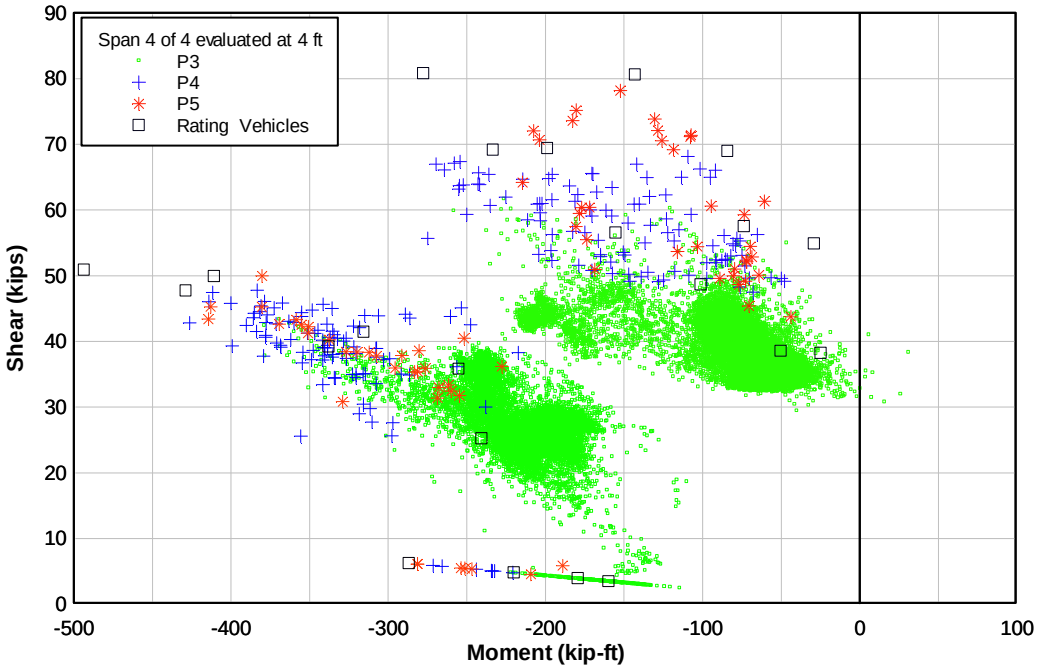

Figure C2.40: Maximum shear vs corresponding moment and the maximum moment vs corresponding shear load effects produced by one year of Wilbur WIM vehicles classified as Permit Tables 3, 4 and 5 and the eleven rating vehicles for four (50 ft) -span continuous bridge evaluated at 4 ft from left support in span four.